

REMARKS

Claims 1 - 113 are pending in the present application. Claims 1 - 68, 104 - 111, and 113 are withdrawn from consideration, while claims 69 - 103 and 112 have been rejected by the Examiner. No claims have been amended herein.

In the Official Action of June 19, 2003, the Examiner objected to the specification for informalities. The Examiner rejected claims 69 - 89 and 100 - 103 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention, and the Examiner rejected claims 69, 73 - 79, 85 - 103, and 112 under 35 U.S.C. § 103(a) as being unpatentable over *Schutz* (U.S. Patent No. 5,383,778) in view of *Smook* (Handbook for Pulp and Paper Technologists), rejected claims 70 - 72 and 80 - 84 under 35 U.S.C. § 103(a) as being unpatentable over *Schulz* in view of *Smook*, and further in view of *Bauernfeind* (U.S. Patent No. 4,759,967) or *Kamps et al.* (U.S. Patent No. 5,702,571), and rejected claims 90 - 95 under 35 U.S.C. § 103(a) as being unpatentable over *Schutte et al.* (U.S. Patent No. Re. 27,453) in view of *Schulz* and *Smook*.

Objection to Specification

The Examiner objected to the specification for containing embedded figures and asserted that each figure must be a separate drawing having its own figure number and be described in the Brief Description of the Drawings. Applicants submit along with this amendment a Request for Approval of Additional Drawings, and herein amend the specification as required by the Examiner. No new matter has been added by these amendments as the new drawings were originally presented as part of the specification

of the application. Applicants respectfully submit that the Examiner's objection to the specification has been overcome.

Rejection under 35 U.S.C. § 112, Second Paragraph

The Examiner rejected claims 69 - 89 and 100 - 103 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Specifically, the Examiner asserted that the phrase "an element clearance that will achieve a non-picking clearance" renders the claim indefinite, and argued that the term non-picking clearance "is not defined by the claims, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention." Moreover, the Examiner asserted that "[t]he specification instead refers to the sidewall angle of an embossing element as being an important factor with respect to sheet picking." Applicants respectfully traverse the Examiner's rejection.

The phrase "an element clearance that will achieve a non-picking clearance" is clearly defined in the specification. First, picking is generally defined in the specification as "the occurrence of fiber being left on the embossing roll or rolls as the web is embossed." (See paragraph 0065.) And, for purposes of the invention, the Applicants have specifically defined "picking" as "the deposition of fiber on the rolls at a rate that would require shut down for cleaning of the rolls more frequently than once a week." (*Id.*) Thus, "non-picking" would be an arrangement where the deposition of fiber on the rolls is at a rate that would require shut down for cleaning of the rolls less frequently than once a week. Second, the Examiner argues that the specification refers to the

sidewall angle of the embossing element as being an important factor with respect to sheet picking. While true, this is only one factor that impacts picking. As set forth in the specification, based on the observed data, picking is believed to be a function of the element height, engagement, spacing, clearance, sidewall angle, alignment, and the particular physical properties of the base sheet, including base sheet caliper, and can be controlled by varying these parameters. (See paragraphs 0069 - 0070.) Element clearance, as described in the specification and depicted in FIGS. 12 - 14, is the distance between the sidewalls of adjacent, engaging elements. Each of the above parameters related directly to the embossing rolls, *i.e.*, element height, engagement, spacing, sidewall angle, and alignment, ultimately determines the element clearance. For example, if the elements have angled sidewalls, increasing the element engagement decreases the element clearance. (See FIGS. 12 - 14.) Thus, based on the disclosure in the specification, one of ordinary skill in the art will be able to determine the various arrangements that will achieve the claimed non-picking clearance. Accordingly, Applicants submit that claims 69 - 89 and 100 - 103 are definite and request withdrawal of this rejection.

Rejections under 35 U.S.C. § 103(a)

The Examiner rejected claims 69, 73 - 79, 85 - 103, and 112 under 35 U.S.C. § 103(a) as being unpatentable over *Schutz* in view of *Smook*. Specifically, the Examiner argued that *Schulz* discloses an embossing apparatus for modifying tensile strength of tissue products, such that the tensile strength in the machine direction is nearly equal the tensile strength in the cross machine direction, where the modification is the result of selectively perforating the web. The Examiner admits that *Schulz*

discloses an embossing apparatus where only one of the embossing rolls has embossing elements, the second roll being an elastic or resilient roll. The Examiner argues, however, that this modification to *Schulz* would have been obvious because Applicants disclosed that two-roll embossing with rolls having mating elements was commonly done to form apertures in tissue paper.

Applicants respectfully traverse the Examiner's rejection because *Schulz* fails to at least disclose (a) first and second embossing rolls having cross-machine direction oriented embossing elements or (b) first and second embossing rolls defining a perforate nip for embossing and perforating a web, as required by each of the pending claims. To establish a *prima facie* case of obviousness, the Examiner must satisfy three requirements, two of which include showing that (1) the prior art reference or the combination of references teaches or suggests all of the limitations of the claims, see, e.g., *In re Wilson*, 165 USPQ 494, 496 (C.C.P.A. 1970), and (2) the prior art relied upon, coupled with the knowledge generally available in the art at the time of the invention, contains some suggestion or incentive that would have motivated the skilled artisan to modify a reference or combine references, see *In re Fine*, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988).

As admitted by the Examiner, *Schulz* fails to disclose the second embossing roll having embossing elements. Contrary to the Examiner's assertion, however, Applicants' disclosure regarding mating embossing rolls does not provide the motivation for one skilled in the art to modify the *Schulz* reference to include two mating embossing rolls each having embossing elements substantially oriented in the cross-machine direction. The disclosure referenced by the Examiner is directed to mated embossing

rolls having embossing elements substantially oriented in the machine direction, an arrangement which is commonly known to those of ordinary skill in the art. There is no disclosure in the specification, apart from the described invention, that would motivate one of ordinary skill in the art to modify *Schulz* to include mated embossing rolls having embossing elements substantially oriented in the cross-machine direction. It is impermissible hindsight to use the claimed invention as a guide to achieve the result of the claimed invention. See *Grain Processing Corp.*, 840 F.2d 902 (Fed. Cir. 1988).

Schulz also fails to disclose first and second embossing rolls defining a perforate nip for embossing and perforating a web. In particular, *Schulz* describes a standard embossing process where perforating the web is generally avoided. The Examiner appears to rely on the term "fracturing" as disclosing perforation of the web in *Schulz*. Fracturing, however, is not perforating. When perforating the web, the web fibers are generally fractured and separated or torn. *Schulz*, on the other hand, warns against tearing the web. Specifically, *Schulz* discloses that "[w]here protuberances extend at an angle . . . the corner . . . may form the most deeply protruding portion which in addition due to the sharpness of the corner may result in unacceptably large penetration into the web and possibly tearing." (Col. 6, lines 37 - 42.) The specification then describes ways to avoid this unacceptably large penetration. Still further, *Schulz* fails to disclose first and second embossing rolls having embossing elements substantially oriented in the cross-machine direction, where the substantially cross-machine oriented elements define a perforate nip that is substantially oriented in the cross-machine direction.

Smoot fails to remedy these deficiencies. *Smoot* is a general handbook that the Examiner relies on to provide machine direction to cross-machine direction tensile stress ratios. *Smoot* does not disclose (a) first and second embossing rolls having cross-machine direction oriented embossing elements or (b) first and second embossing rolls defining a perforate nip for embossing and perforating a web, as required by each of the pending claims.

For at least these reasons, claims 69, 73 - 79, 85 - 103, and 112 are allowable over the cited art.

The Examiner rejected claims 70 - 72 and 80 - 84 under 35 U.S.C. § 103(a) as being unpatentable over *Schulz* in view of *Smook*, and further in view of *Bauernfeind* or *Kamps et al.* Claims 70 - 72 and 80 - 84 each ultimately depend from claim 69 and are allowable for at least the reasons set forth above, as neither *Bauernfeind* nor *Kamps et al.* cure the deficiencies of *Schulz* and *Smook*. In particular, neither *Bauernfeind* nor *Kamps et al.* disclose perforating a web with elements substantially oriented in the cross machine direction. Instead, as with *Schulz*, each of the references fails to teach first and second embossing rolls having embossing elements substantially oriented in the cross-machine direction, where the substantially cross-machine oriented elements define a perforate nip that is substantially oriented in the cross-machine direction. For at least these reasons, claims 70 - 72 and 80 - 84 are allowable over the art.

The Examiner rejected claims 90 - 95 under 35 U.S.C. § 103(a) as being unpatentable over *Schutte et al.* (U.S. Patent No. Re. 27,453) in view of *Schulz* and *Smook*. As set forth in detail above, these claims are allowable over *Schulz* and *Smook*. Combining these references with *Schutte et al.* does not cure the previously

addressed deficiencies. The Examiner argues that *Schutte et al.* discloses passing a web between two embossing rolls having cross-machine direction elements and perforate embossing the web. *Schutte et al.* does not disclose, however, perforate nips that are substantially oriented in the cross-machine direction. Specifically, *Schutte et al.* fails to disclose first and second embossing rolls having embossing elements substantially oriented in the cross-machine direction, where the substantially cross-machine oriented elements define a perforate nip that is substantially oriented in the cross-machine direction. Instead, *Schutte et al.* discloses machine direction elements that, during embossing, are adjacent cross-machine direction elements, resulting in a "T" pattern on the resulting web. Thus, *Schutte et al.* does not disclose two cross-machine direction elements that form a perforate nip for embossing and perforating a web. Accordingly, for at least this reason, claims 90 - 95 should be allowed.

Conclusion

In view of the foregoing remarks, Applicants respectfully request the reconsideration and reexamination of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our Deposit Account 06-0916.

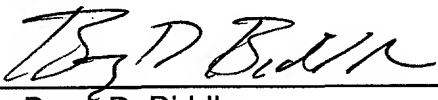
FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER, L.L.P.

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By: 
Barry D. Biddle
Reg. No. 44,033

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com